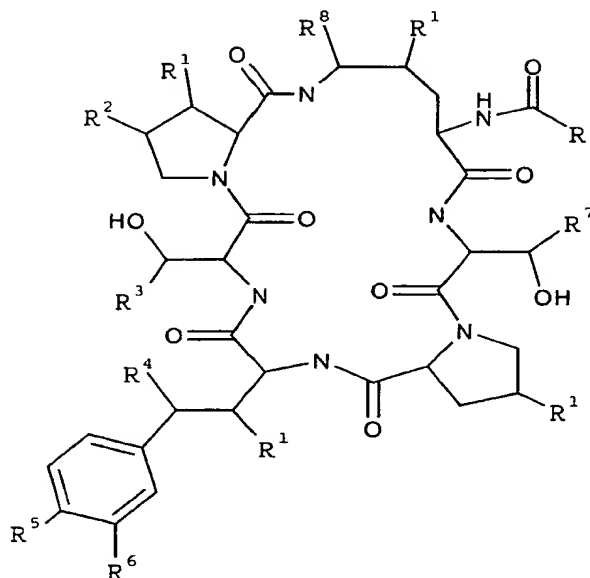


WE CLAIM:

1. A compound represented by structure I



wherein

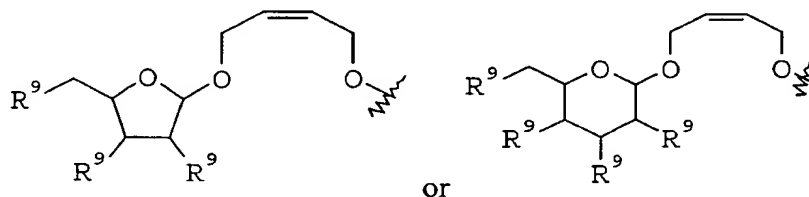
R is an alkyl group, an alkenyl group, an alkynyl group, an aryl group, or heteroaryl group;

R¹ is independently -H, -OH or -O-Pg; R² is -H, -CH₃, -NH₂, or -NH-Pg;

R³ is -H, -CH₃, -CH₂CONH₂, -CH₂CONH-Pg, -CH₂CH₂NH₂, or -CH₂CH₂NH-Pg;

R⁵ is -OH, -OSO₃H, or -OPO₂HR^a, where R^a is hydroxy, C₁-C₆ alkoxy, phenyl, phenoxy, *p*-halophenyl, *p*-halophenoxy, *p*-nitrophenyl, *p*-nitrophenoxy,

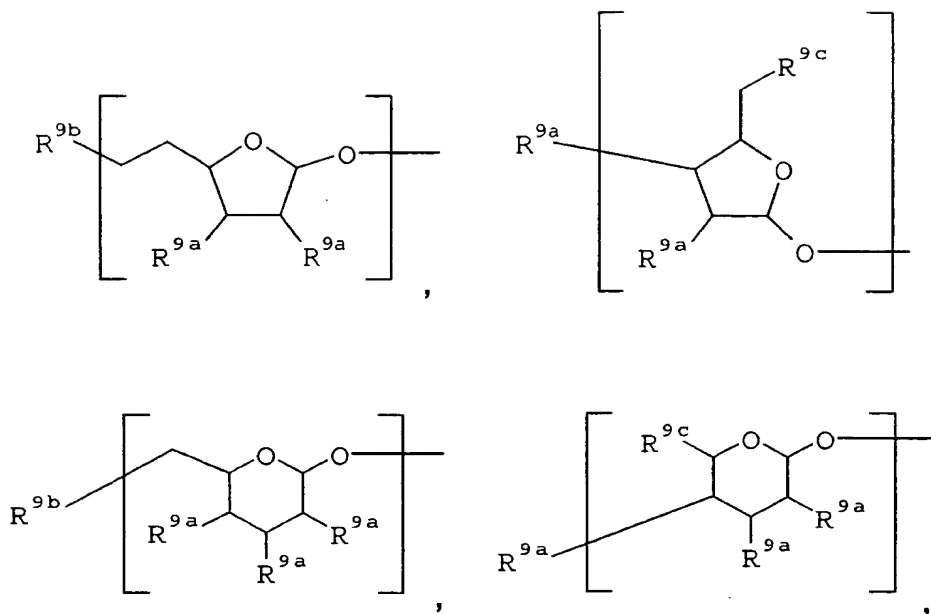
benzyl, benzyloxy, *p*-halobenzyl, *p*-halobenzyloxy, *p*-nitrobenzyl, or *p*-nitrobenzyloxy; R⁶ is -H, -OH, or -OSO₃H; R⁷ is -H or -CH₃; R⁴ and R⁸ are independently, hydrogen, or hydroxy and at least one of R⁴ and R⁸ is a sugar moiety of the formula



or

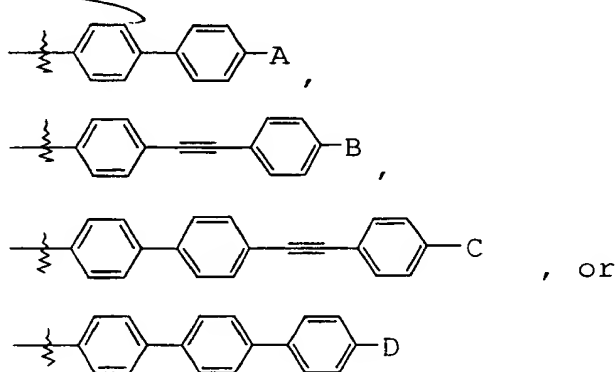
where R⁹ is independently -H, -OH, -N₃, -O-Pg, -NH₂,

-NH-Pg, -OPO₂R^a, or a second sugar moiety comprising one to three sugar units selected from the group consisting of



- 5 and mixtures thereof, wherein R^{9a} is -H, -OH, $-N_3$, $-NH_2$, -O-Pg, or -NH-Pg, R^{9b} is $-OPO_2R^a$, $-OSO_3H$, -H, $-NH_2$, -OH, -O-Pg, or -NH-Pg, R^{9c} is $-CH_3$, $-CH_2OH$, $-CH_2N_3$, $-CH_2OSO_3H$, $-CH_2NH$ -Pg, $-CH_2O$ -Pg, $-CO_2H$, or $-CO_2$ -Pg, where R^a is as defined above, and no more than one R^9 is represented by said second sugar moiety; Pg is a protecting group (i.e., -O-Pg is a hydroxy protecting group, -NH-Pg is an amino protecting group, $-CH_2CONH$ -Pg is an amido protecting group and $-CO_2$ -Pg is a carboxy protecting group); and pharmaceutically acceptable salts, esters, hydrates or solvates thereof.

2. The compound of Claim 1 wherein R is

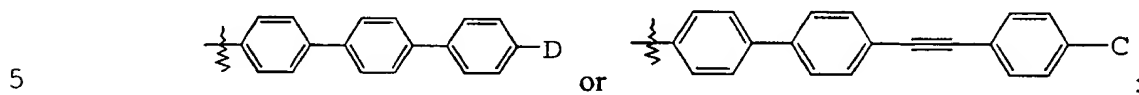


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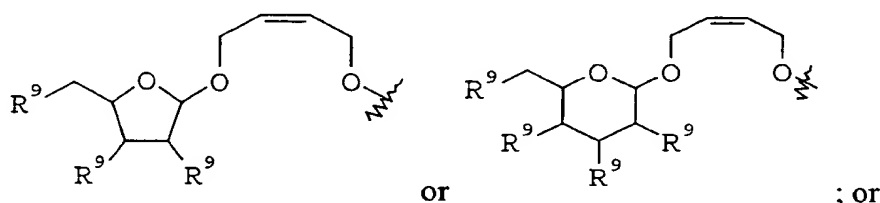
where A, B, C and D are independently hydrogen, C_1 - C_{12} alkyl, C_2 - C_{12} alkynyl, C_1 - C_{12} alkoxy, C_1 - C_{12} alkylthio, halo, or $-O-(CH_2)_m-[O-(CH_2)_n]_p-O-(C_1-C_{12} \text{ alkyl})$ or $-O-(CH_2)_q-X$ -E; m is 2, 3 or 4; n is 2, 3 or 4; p is 0 or 1; q is 2, 3 or 4; X is pyrrolidino, piperidino or

piperazino; and E is hydrogen, C₁-C₁₂ alkyl, C₃-C₁₂ cycloalkyl, benzyl or C₃-C₁₂ cycloalkylmethyl.

3. The compound of claim 2 wherein R¹ is hydroxy at each occurrence; R², R³, and R⁷ are each methyl; R is a moiety of the formula



R⁴ is hydroxy; R⁵ is -OPO₂HR^a, where R^a is C₁-C₄ alkyl or C₁-C₄ alkoxy; R⁸ is a sugar moiety of the formula

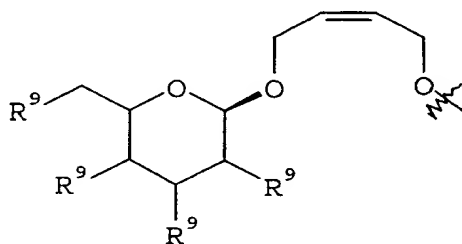


10 a pharmaceutically acceptable salt or solvate thereof.

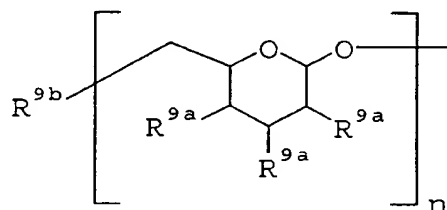
4. The compound of claim 3 wherein R⁵ is hydroxy; R is a moiety of the formula



where D is hydrogen or C₃-C₇ alkoxy; R⁸ is a moiety of the formula

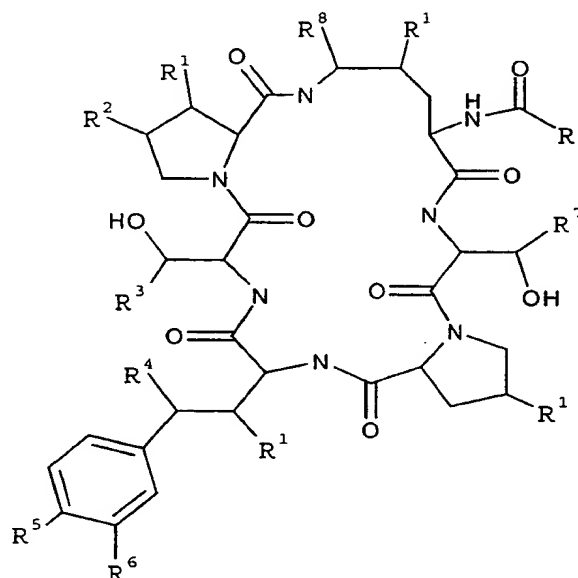


15 where R⁹ is independently hydrogen, hydroxy, amino, or a moiety of the formula

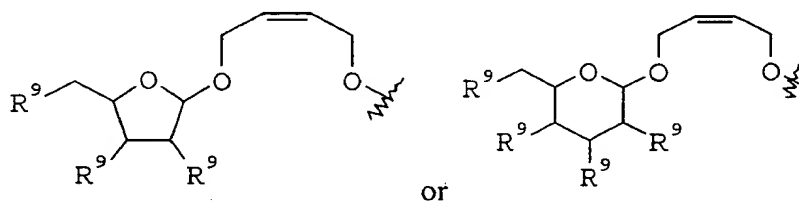


where R^{9b} is -OPO₂R^a, -OSO₃H, -H, -NH₂, -OH, -O-Pg, or -NH-Pg and n is 1, 2, or 3; or a pharmaceutically acceptable salt or solvate thereof.

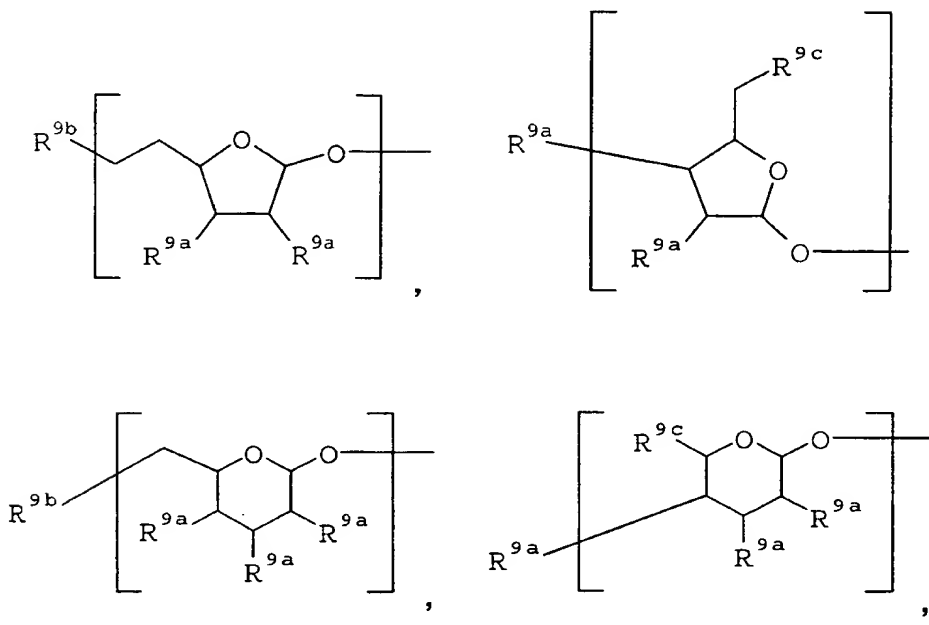
5. The compound of claim 4 wherein D is n-pentoxy; R^9 and R^{9a} are independently hydroxy or amino; and R^{9b} is -OH or $-OPO_2R^a$; or a pharmaceutical salt or solvate thereof.
6. The compound of claim 5 wherein R^9 is hydroxy at each occurrence; and R^{9b} is $-OPO_2R^a$, where R^a is methyl or methoxy; or a pharmaceutical salt or solvate thereof.
7. A pharmaceutical formulation comprising one or more pharmaceutical carriers, diluents, or excipients and a compound of claim 1.
8. A method of inhibiting fungal activity comprising administering to a recipient in need of such inhibition an effective amount of a compound represented by structure I:



- 10 wherein R is an alkyl group, an alkenyl group, an alkynyl group, an aryl group, or heteroaryl group; R^1 is independently -H, -OH or -O-Pg; R^2 is -H, -CH₃, -NH₂, or -NH-Pg; R^3 is -H, -CH₃, -CH₂CONH₂, -CH₂CONH-Pg, -CH₂CH₂NH₂, or -CH₂CH₂NH-Pg; R^5 is -OH, -OSO₃H, or $-OPO_2HR^a$, where R^a is hydroxy, C₁-C₆ alkyl, C₁-C₆ alkoxy, phenyl, phenoxy, *p*-halophenyl, *p*-halophenoxy, *p*-nitrophenyl, *p*-nitrophenoxy, benzyl, benzyloxy, *p*-halobenzyl, *p*-halobenzyloxy, *p*-nitrobenzyl, or *p*-nitrobenzyloxy; R^6 is -H, -OH, or -OSO₃H; R^7 is -H or -CH₃; R^4 and R^8 are independently, hydrogen, or hydroxy and at least one of R^4 and R^8 is a sugar moiety of the formula



where R^9 is independently -H, -OH, -N₃, -O-Pg, -NH₂, -NH-Pg, -OPO₂R^a, or a second sugar moiety comprising one to three sugar units selected from the group consisting of



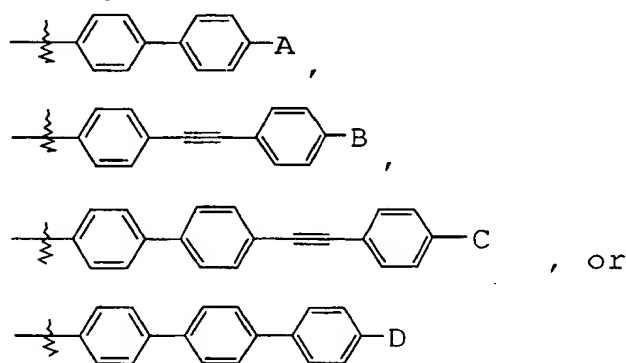
, and mixtures

thereof, wherein R^{9a} is -H, -OH, -N₃, -NH₂, -O-Pg, or -NH-Pg, R^{9b} is -OPO₂R^a, -OSO₃H, -H, -NH₂, -OH, -O-Pg, or -NH-Pg, R^{9c} is -CH₃, -CH₂OH, -CH₂N₃, -CH₂OSO₃H, -CH₂NH-Pg, -CH₂O-Pg, -CO₂H, or -CO₂-Pg, where R^a is as defined above, and no more than one



R^9 is represented by said second sugar moiety; Pg is a protecting group (i.e., -O-Pg is a hydroxy protecting group, -NH-Pg is an amino protecting group, -CH₂CONH-Pg is an amido protecting group and -CO₂-Pg is a carboxy protecting group); and pharmaceutically


acceptable salts, esters, hydrates or solvates thereof.

9. The method of Claim 8 wherein R is



where A, B, C and D are independently hydrogen, C₁-C₁₂ alkyl, C₂-C₁₂ alkynyl, C₁-C₁₂ alkoxy, C₁-C₁₂ alkylthio, halo, or -O-(CH₂)_m-[O-(CH₂)_n]_p-O-(C₁-C₁₂ alkyl) or -O-(CH₂)_q-X-

- 




- *c1ccc(cc1)-c2ccc(cc2)-c3ccc(cc3)I

- $$R^{9b} \left[\begin{array}{c} \text{---} \text{CH}_2 \text{---} \text{C}(\text{R}^{9a}) \text{---} \text{O} \text{---} \text{C}(\text{R}^{9a}) \text{---} \text{O} \text{---} \\ | \qquad \qquad | \qquad \qquad | \\ \text{R}^{9a} \qquad \text{R}^{9a} \qquad \text{R}^{9a} \end{array} \right]_n$$

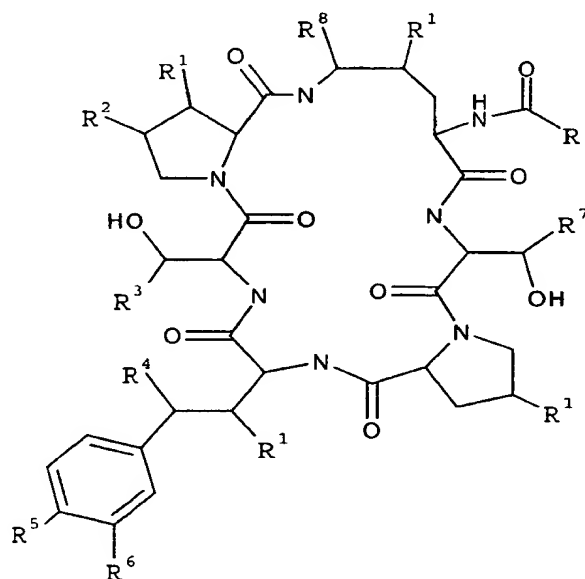
where R^{9b} is $-OPO_2R^a$, $-OSO_3H$, $-H$, $-NH_2$, $-OH$, $-O-Pg$, or $-NH-Pg$ and n is 1, 2, or 3; or a pharmaceutically acceptable salt or solvate thereof.

13. The method of claim 12 wherein D is n -pentoxy; R^9 and R^{9a} are independently hydroxy or amino; and R^{9b} is $-OH$ or $-OPO_2R^a$; or a pharmaceutical salt or solvate thereof.

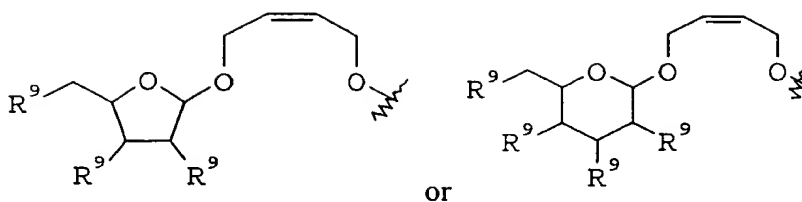
5 14. The method of claim 13 wherein R^9 is hydroxy at each occurrence; and R^{9b} is $-OPO_2R^a$, where R^a is methyl or methoxy; or a pharmaceutical salt or solvate thereof.

15. The method according to Claim 8 wherein the fungal activity arises from one or more fungi selected from the group consisting of *Candida albicans*, *Aspergillus fumigatis*, and *Candida parapsilosis*.

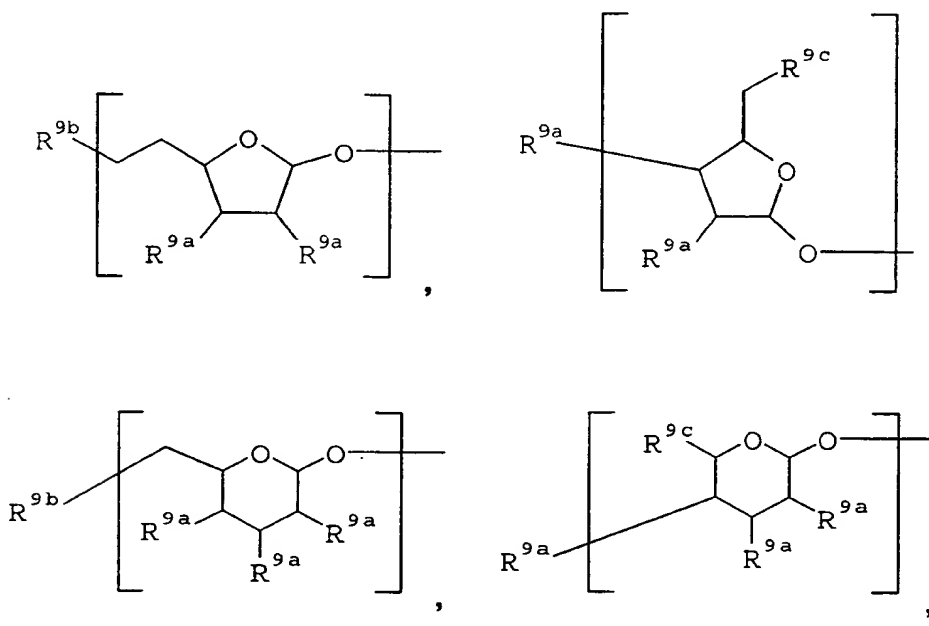
10 16. A method of inhibiting parasitic activity comprising administering to a recipient in need of such inhibition an effective amount of a compound represented by structure I:



wherein R is an alkyl group, an alkenyl group, an alkynyl group, an aryl group, or heteroaryl group; R^1 is independently $-H$, $-OH$ or $-O-Pg$; R^2 is $-H$, $-CH_3$, $-NH_2$, or $-NH-Pg$;
 15 R^3 is $-H$, $-CH_3$, $-CH_2CONH_2$, $-CH_2CONH-Pg$, $-CH_2CH_2NH_2$, or $-CH_2CH_2NH-Pg$; R^5 is $-OH$, $-OSO_3H$, or $-OPO_2HR^a$, where R^a is hydroxy, C_1 - C_6 alkyl, C_1 - C_6 alkoxy, phenyl, phenoxy, p -halophenyl, p -halophenoxy, p -nitrophenyl, p -nitrophenoxy, benzyl, benzyloxy, p -halobenzyl, p -halobenzyloxy, p -nitrobenzyl, or p -nitrobenzyloxy; R^6 is $-H$, $-OH$, or $-OSO_3H$; R^7 is $-H$ or $-CH_3$; R^4 and R^8 are independently, hydrogen, or hydroxy and
 20 at least one of R^4 and R^8 is a sugar moiety of the formula



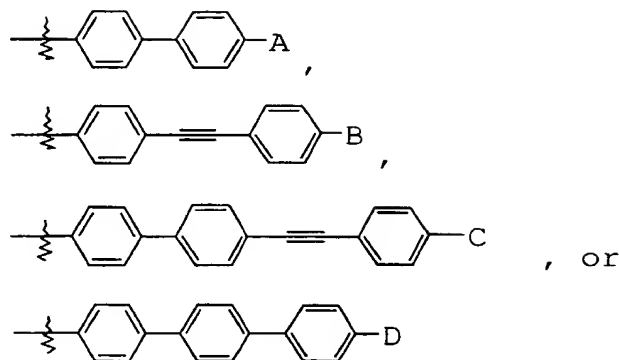
where R^9 is independently -H, -OH, -N₃, -O-Pg, -NH₃, -NH-Pg, -OPO₂R^a, or a second sugar moiety comprising one to three sugar units selected from the group consisting of



, and mixtures

- 5 thereof, wherein R^{9a} is -H, -OH, -N₃, -NH₂, -O-Pg, or -NH-Pg, R^{9b} is -OPO₂R^a, -OSO₃H, -H, -NH₂, -OH, -O-Pg, or -NH-Pg, R^{9c} is -CH₃, -CH₂OH, -CH₂N₃, -CH₂OSO₃H, -CH₂NH-Pg, -CH₂O-Pg, -CO₂H, or -CO₂-Pg, where R^a is as defined above, and no more than one R^9 is represented by said second sugar moiety; Pg is a protecting group (i.e., -O-Pg is a hydroxy protecting group, -NH-Pg is an amino protecting group, -CH₂CONH-Pg is an amido protecting group and -CO₂-Pg is a carboxy protecting group); and pharmaceutically
- 10 acceptable salts, esters, hydrates or solvates thereof.

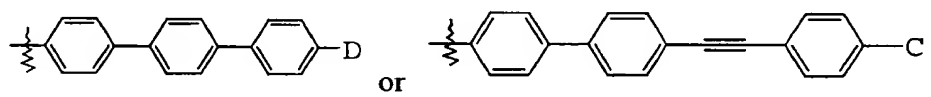
17. The method of Claim 16 wherein R is



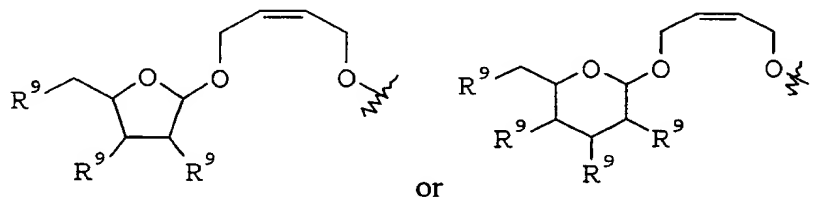
where A, B, C and D are independently hydrogen, C_1 - C_{12} alkyl, C_2 - C_{12} alkynyl, C_1 - C_{12} alkoxy, C_1 - C_{12} alkylthio, halo, or $-O-(CH_2)_m-[O-(CH_2)_n]_p-O-(C_1-C_{12} \text{ alkyl})$ or $-O-(CH_2)_q-X-E$; m is 2, 3 or 4; n is 2, 3 or 4; p is 0 or 1; q is 2, 3 or 4; X is pyrrolidino, piperidino or piperazino; and E is hydrogen, C_1 - C_{12} alkyl, C_3 - C_{12} cycloalkyl, benzyl or C_3 - C_{12} cycloalkylmethyl.

18. The method of claim 16 wherein the recipient is a human.

19. The method of claim 17 wherein R^1 is hydroxy at each occurrence; R^2 , R^3 , and R^7 are each methyl; R is a moiety of the formula

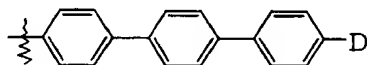


R^4 is hydroxy; R^5 is $-OPO_2HR^a$, where R^a is C_1 - C_4 alkyl or C_1 - C_4 alkoxy; R^8 is a sugar moiety of the formula

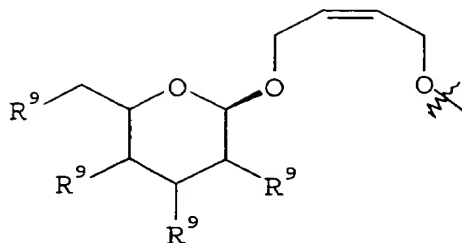


or a pharmaceutically acceptable salt or solvate thereof.

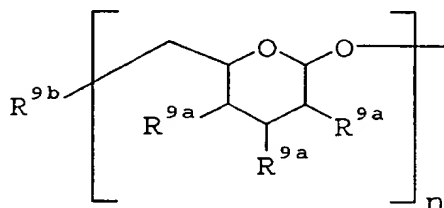
20. The method of claim 19 wherein R^5 is hydroxy; R is a moiety of the formula



where D is hydrogen or C_3 - C_7 alkoxy; R^8 is a moiety of the formula



where R^9 is independently hydrogen, hydroxy, amino, or a moiety of the formula



5 where R^{9b} is $-OPO_2R^a$, $-OSO_3H$, $-H$, $-NH_2$, $-OH$, $-O-Pg$, or $-NH-Pg$ and n is 1, 2, or 3; or a pharmaceutically acceptable salt or solvate thereof.

21. The method of claim 20 wherein D is n -pentoxy; R^9 and R^{9a} are independently hydroxy or amino; and R^{9b} is $-OH$ or $-OPO_2R^a$; or a pharmaceutical salt or solvate thereof.

22. The method of claim 21 wherein R^9 is hydroxy at each occurrence; and R^{9b} is $-OPO_2R^a$, where R^a is methyl or methoxy; or a pharmaceutical salt or solvate thereof.

23. The method according to Claim 16 wherein the parasitic activity arises from *Pneumocystis carinii*.